**DESIGN WORKSHOP FOR STUDENTS**

Authors:

Regina Raycheva1,

Vassil Jivkov1,

Desislava Angelova1,

Pavlina Vodenova1,

1 University of Forestry, Sofia

In the light of the active changes in higher education in the last years, the intensive study modules of practical training have become more and more popular. They are known as ‘workshops’ (or designer workshop). They place students under actual working conditions, where they are supposed to solve a certain problem for a short time. The correct and well implemented training guarantees the achievement of a good end result. To make this possible, a deep knowledge is necessary, both of advantages and problems that may occur. The present paper focuses on the following important issues: the choice of theme; student team-building; work stages; requirements for final project presentation; assessment criteria. In the paper, situations are also considered, where problems occur, both creative, motivational and interpersonal, as well as methods of their overcoming.

The paper aims at methodical support for university teachers who organize such type of intensive training.

**Key words: design workshop, intensive training, team work, methods of practical training.**

Proposed topics of the article with authors:

* Choice of theme, links with manufacturing companies – Vassil Jivkov
* Student Team-building – Pavlina Vodenova
* Work stages, design methods – Desislava Angelova
* Requirements for final project presentation – Regina Raycheva
* Assessment Criteria – Regina Raycheva
* The Experience of the Salzburg University of Applied Sciences – Product Design and Architecture: differences - Michael Ebner

CHOICE OF THEME, LINKS WITH MANUFACTURING COMPANIES – Vassil Jivkov

The choice of theme is of extreme importance for the successful implementation of an intensive module with practical application, as part of the curriculum both of designer or engineer courses. There are two ways to approach the theme choice. The first one is to connect the theme with a specific problem solving, sometimes with a specific company, with exact parameters given. For example, this could be the task of developing a product with given function, materials, even form, color etc., such as a dining chair of solid beech wood or a child toy made of rubber for age 1-2 years, etc. To the requirements of project presentation certain requirements for developing the structure, the technology and organization of manufacturing, etc., could be added. This woyld be one opportunity for students to apply specific knowledge, but on the other side, it would deprive them of the possibility to come out of standard problem solving. In this case, it would be harder to provoke participants’thinking and receive unexpected results. The second theme choice is the so-called ‘conceptual’ approach, i.e. a theme not connected directly to a specific product, but aiming at developing students’ thinking outside their usual training. These tasks aim at creating a concept and not a specific product. Such examples exist at the University of Forestry in Sofia, the University of Applied Sciences in Salzburg as well as many other universities. Such conceptual workshop themes from the last years are „Open up, Sesame!”, „Building with Sustainable Materials”, „Aesthetics of Water”, „Green Emotions”, etc. This approach allows to come out of a specific product design or manufacturing problem. Thus a concept for future development is born. These topics do not exclude the evolving of a real product, but this should not be an obligatory condition. The task could be connected to the solving of a social case, one with public significance. An example for that could be a workshop, organized in the framework of an international intensive program from the University of Applied Sciences in Salzburg, where the aim was to help a smaller settlement to attract more tourists by means of ecologic and sustainable building.

The theme choice is directly dependent of the participation of a company or public partner of the program. His role could have several aspects. The first one is determining the theme, usually directly connected with his activity. In this way, a manufacturer of kitchen furniture could expect the evolving of a concept such as „Kitchen 2020”. In this way students could be faced with the challenge to make a prognosis of kitchen development in 8 years time, of trends in appliances, in hardware and materials, of sustainable development of dwellings, of lifestyle, etc. Such a scheme could be proposed by any manufacturer, where he manufactures furniture, clothes, packaging etc.

The participation of a partner in the program also gives students the chance to meet real buisness of a company; its problems and future development plans. This is an excellent opportunity to put buisiness into contact with education process. This partner must take part of some of the program’s stages, such as Middle Presentation, Final Presentation, jury work. One of the stimuli for students is to not only present an entry and possibly win, but to also receive recognition by business or social partners or even prototyping the design or a proposal to develop the project to be launched in production. Last but not least we should note that attracting a partner for an Intensive Program (Workshop) would give the opportunity to receive financing and materials, by means of which the project will be provided for.

STUDENT TEAM-BUILDING – Pavlina Vodenova

The idea of such type of Intensive Programs is to simulate team work. This is the reason why participants are being distributed on an equal base in separate teams, working together for determining and developing the idea. There is also a competitive agmosphere, of course, because there is always a winner of this kind of workshops. The distribution of teams could be drawn by chance, or the students are allowed to build the teams by themselves. The first building technique is more appropriate. When students choose their teams by themselves, they tend to group according to personal friendships, which later hinders the communication with the rest of the team. When participants come from different countries, it is a good practice to have equal numbers of each nation, in other case, communication problems appear again, this time accompanied with language barriers. When we talk of international intensive programs, English is a must, both for students and teachers.

After the teams have been finally built, there comes a moment of cautious familiarization. To this end, a common social event, such as dinner or other activity, has the task of getting the participants closer to each other in a natural way. Whether there would be any unusual task, such as to prepare food for dinner for all participants, or just listen to music and enjoying the hospitality of hosts, there are many ways that could be used.

Team work always brings about problems. Some teams find their common language straight away; others do not succeed to do so till the end. Some are too shy and insecure in their knowledge and skills, others, on the contrary, listen only to their own opinions, thus dialogue is missing altogether. There is no clear scheme to deal with these and other problems. Therefore, here the key role goes to another team – that of the teachers. Having their personal experience, they should be able to help communication without interfering in the development or choice of idea. Their aim is to encourage students in the right direction and to patiently wait for them to find the adequate decision although it may not be the best. That is why the choice of team members is so important to be done before the start intentionally. Every team should have a leader, and his work is difficult: to unify, coordinate, evaluate, find decisions for difficult situations, give new ideas, etc. The most significant leader of all is the one of teacher team. If student teams could sometimes reach high results with no evident leader, teacher team leader’s presence is of crucial importance. He is usually highly communicative and experienced; helping other teachers as well as hosts to create optimal conditions, where student teams work on an equal basis. He must, speaking metaphorically, kindle the flame; how the fire burns depends on the wood. Without those cares no outcome could be reached. The aim of these workshops requires them.

Because the designer profession is considered to be highly indivicual work, it is sadly a fact that most of the projects on different courses during education are not team work. Students in Bulgaria do not have an experience with team wirl. The nature of this type of collaboration leads to different methods, such as brainstorming, idea-generation, to reach development or rejection and change, in order to reach the final design presentation.

WORK STAGES, DESIGN METHODS – Desislava Angelova

The work during an intensive practical module can provisionally be divided in 5 stages:

First stage: Preparation (Assimilation). It includes the following phases: introducing participants to the problem to be solved; assimilation and ranging general information on the problem; analysis of conditions, limitations, norms etc; search for more information; discovering social needs; forecasting.

Second stage: Concept (General Study). It consists of the following stages: analysis of information, task introduction; determining the solutions field; choice of means to solve the task; search of possible solutions (idea generating).

Third stage: Development. This stage includes two phases: choice of one or several solutions, received during the second stage and their further development.

Fourth stage: Communication. It includes two phases: discussing one or more solutions together with the participants of the team and outside it and the choice of one decision for further development.

Fifth stage: Implementation. It includes: specification and finalizing the solution; a experimenatal proof (drafts, models or prototypes); visual presenting of the solution proposal.

The duration of each stage depends on the time previewed for the intensive practical training. The average of 8 hours, starting from 8.00 till 17.00 o’clock is a standard timing with an hour of lunch break. It is possible that some stage receives less time than another one which requires longer work. It is important to make the whole week’s program in advance hour per hour. In this way participants know exactly how much time they have for each stage, they feel organized and do not waste time.

With envisaged five day’s Intensive program, we propose the following time distribution:

**First day of Program: First stage**

The first stage begins with introducing the participants to the problem which has to be solved; team-building; introducing participants to work conditions, such as place and materials.

The task is formulated with maximum clarity, avoiding specific terminology, because it limits creative thinking. It is desirable that the task formulation and the goals are put down in writing and even graphically presented.

When there is a specific sponosr company of the intensive program, it is necessary that the participants are introduced to its activities, product range, materials and technology, marketing targets etc. This could be done by way of a presentation prepared by company representative and visit to company premises.

To this end, a teaching hall with multimedia presentation equipment is needed, where all participants of the IP are gathered. Duration should be no more than 4 hours (till noon). The rest of the day students go on with the rest of first stage work. Groups start working. The character of activities is such, that separate rooms for each group are desirable, or a big hall where each group has its own space, with access to Internet, to provide for information analysis. Work distribution is done between team members at this stage.

Possible methods: research of analogue products on the Internet, in specialized periodicals and catalogues; mapping of findings; playing of the user role; choosing a model; role-playing; story-telling; functions analysis; morphologic problem matrix, etc.

**Second Program Day: First and Second Stages**

In the second day before noon, 2 hours are spent for further information and 2 hours for analysis and directions for further work, the problem situation, the basic goal and need. Task Limitations are established. In the preparatory stage information and facts are piled, intelectual-creative preparation takes place. The solution comes when social need and problem situation is understood after the information is analyzed. Dissatisfaction of the existing situation and the desire to change it are stimulating the team members. A conceptual or graphic model of the problem situation is made at this stage, as well as a plan for solution finding and methods to be used.

A large surface to exhibit and arrange information is needed, such as blackboard or flipchart stand or just the wall, not to miss any part of it during analysis. This surface will be used at next stages, especially idea generating, where all ideas that appeared in the mind are to be written down, no matter good or bad.

In the afternoon the most important creative stage begins: idea generation. The principles of task solution are determined, which later will be proofed by means of weighing positive and negative aspects. At this stage we use heuristic methods, such as analogy, associations, control questions, change of thought direction, eliminating technical contradictions, etc. They are part of many methods. The most often used design methods are: brainstorming and its varieties, sinectics, method of focused objects, morphologic analysis and synthesis, method of control questions, reinforced analogy; bionics; analogy and metaphor; free associations, chains of associations and metaphor method; method of preparative questions; trigger method; matrix of successive qualities; method ‘stair movment’; method ‘attributive description’, SCAMPER method etc.

On the one hand, these methods stimulate creativity, by encouraging faster and more effective creation of a great number of ideas in connection to the task by way of unifying member’s minds in course of session, and on the other, they help to remove barriers to creative thinking.

Having in mind visual designer thinking, it is appropriate to use methods, where ideas are visualized. For example, this is the „6-3-5” method, which is a variety of brainstorming; ‘fishbone’diagram, ‘card tray’, ‘stair movement’, Crawford paper note methods, play of provoked associations, ‘tree of solutions’, method ‘sticky notes’, etc. With all of them, sketches are made in short time with no dimensions. Visualizing helps better understanding and modifications, stimulating new ideas at the same time. Every team member is engaged in idea-generating process.

After stage I: Idea Generating, comes a discussion in the group with the choice of one or more solutions for elaboration.

Second day work may finish earlier, right after the direction of future work is established. To dissipate stress, after day II participants are recommended to take part in a common activity: sport, cullinary competition, karaoke party etc.

**Day III: third and fourth stages**

During the morning session it is possible to elaborate on ideas of the previous day, every team should choose one or several solutions, which are presented the same day at Middle Presentations in front of all participants in the program. To this end, every team prepares a PowerPoint presentation.

With Middle Presentation, the Fourth stage of creative process begins. After presentation, a group discussion takes place. A maximum number of team members should take part in the discussion, to help the correct choice of design for further elaboration. At this stage, De Bono’s ‘six hat thinking’ method could be used, where the task is seen from different points. The basis of the technique is the so-called ‘paralel thinking’, where all members think parallell with the same mind setting, i.e. they ‘wear the same hat’. The outcome may be that some design solution be totally rejected and work starts again for this team.

**Day IV: fifth stage (realization)**

The realization stage is characterized with technical and aesthetic elaboration of the design, specification and further changes. The original solution may be changed. Teams with chosen design should start preparing the final documents: drafts, visualizations, models or prototypes, by distributing work between team members.

**Day V: Project finalization**

This stage includes the preparation of final presentation materials and finalizing the design.

REQUIREMENTS FOR PRESENTATION MATERIALS – Regina Raycheva

The workshop outcomes are presented twice during the period of their implementation and mark two major phases of the creative process: middle presentation and final presentation.

MIDDLE PRESENTATION

It takes places approximately on the 3rd or 4rth day of a 10-day workshop, for example if the event starts Monday; the middle presentation takes place on Thursday.

Typically, there are two major aspects of this presentation: the rendered materials, such as posters and work models; and oral presentation in front of the public.

Posters are made in A3 or other format, suitable for the theme, a working model is made as well. Oral presentation includes more ways to explain the basic idea: apart from speech, students could prepare a performance, a sketch to illustrate the situation that gave the start to the basic idea. They can explain the idea by using the model, or they can draw in front of the public, they can enact the situation, or tell a story with the characters illustrating the idea.

Middle presentation is characterized as a free and artistic, innovative act. There is still no final solution to the design problem. This presentation aims at another specific aspect of a workshop: satisfaction from design work, appreciation of the fact that a problem has been solved successfully as a result of team work, to actually experience how interesting the design profession is in reality. In this way, positive attitude can influence the creative process towards interesting and innovative results.

The middle presentation is organized in a room, where posters are hung on the wall, and models are placed in front of them. All seminar participants are present as well as the teacher team and other guests. It aims at showing the tangible results of the first stages of creative work: brainstorming and the following first ideas. Students demonstrate team work by a unified and coherent presentation, including every participant on an equal base.

FINAL PRESENTATION

Again, here we have two elements: the presentation posters and models, and the presentation proper.

GRAPHIC MATERIALS AND MODELS

Several posters are prepared in the format of A3, A2 or other suitable format; models are prepared in scale 1:5, 1:10, 1:20, etc. The posters should explain elements of idea generating, such as the starting problem, an analogue product, result of brain-storming that gave the beginning of the process). Here is given a concise overview of the research results for the given situation/problem or product. The solution to this problem is demonstrated by the necessary drafts, such as elevations, sections, 3D renders and details. Those drafts illustrate the product in general; they are made in scales 1:5, 1:10, 1:20 or other. Working models show the product in the appropriate scale. Elements of the situation solution are present in the form of human figures to show the relation and interaction with the product.

The third interesting element of the final presentation materials is the so-called ‘sketchbook’, or a portfolio in A3 or A4 format, where a ‘diary’ of the days past is prepared, visualizing with photograph shots the events. In it, participants of the team are presented, the first stages and the development of the design idea with pictures, sketches, text and collage. This diary follows the dynamics of the group work and its progress. It is also the storybook of the workshop development.

PRESENTATION

Again the rule of equal participation of every team member is applied here. The presentation is organized and directed in such a way, that everyone has a role in it. A story is usually presented of the project situation and the evolving solution, illustrating it with actions. Public attention should be concentrated on the presenters: a story with characters can be used to demonstrate clearly what it is about. The public may be attacked by handing out flyers to them, by inviting them to ask questions or take part, etc. Presenting is a personal act. Influence on people, just like acting, is a matter of personal charisma. Independently from the values of design solution, the presentation aims at training communicative skills of the designer and his work with people. By making clear the task first to himself, the designer is capable of persuading other people by making an impression on them. In this way he can communicate the result of his work and skills. This aspect is relatively new to us in Bulgaria and needs special attention.

The final presentation’s organization is more formal and on larger scale in terms of participation than the middle presentation. All students that worked in the seminar, as well as all teachers, guest students and other people take part.

The teacher team chooses a jury, usually with the participation of external assessor or experts. The presence of public is of great importance. It is a real experience of future designers meeting directly with their customers and includes answering questions from public and jury. Apart from charisma, this situation requires a quick response, logical thinking, defending skills and demonstrating the amount of research and labor that the project theme required.

After the final presentation, the jury is left alone in the room with the projects to discuss the advantages and disadvantages of every individual design, thus ranging participants according to declared criteria.

The next step is to formally announce the winner list and making a final party afterwards. This event marks the end of the workshop and is aimed at achieving positive atmosphere after the days of stressful work.

The competitive principle becomes clear at this moment. The teams not only present their work, they compete before the client with their design solutions. Sometimes in actual workshop conditions, the same idea can be presented by different teams with different variations, thus showing the potential of each one of them.

ASSESSMENT CRITERIA

The teacher team is required to put forward the competition criteria right from the beginning of the workshop. This also means, that the sponsor, who provides the theme, announces his prize (it can also be money prize) as well as the conditions for winners (how many winners are provided, and how many prizes and mentions are going to be distributed). The design criteria are very important, because they are present from the very beginning and determine the direction of design research.

The criteria are grouped in the following way:

* Is the project an effective solution to the design problem? Does the competition entry find and important design problem existing with the project situation? The skill of finding the problem is part of and the result of a serious and deep design research and a prerequisite of finding a valid original solution out of existing routine. The direct contact of the sponsor with young non-prejudiced designers is a desired outcome. Although such an outcome may or may not be present in each workshop, it is highly valued by the sponsors and is one of the main reasons for organizing such designer events.
* Is the project innovative? This goal is very difficult. First, information in the design field is widely available in any one moment. Teams may be tempted to apply a ready solution. It also might turn out that a genuinely evolved solution by the team could be well-known in the professional world. The difference in the two cases is obvious: in the first case, there is no effort to find the solution on your own, thus the training effect is lost. In the second case, people might get de-motivated to make efforts to discover things already discovered. Therefore the teacher’s team should be really experienced in order to manage the first stages effectively and not allow copying ready decisions. Innovative solutions, on the other hand, are possible with young and non-prejudiced people with open thinking.
* Successful design form, including expressive, ergonomic, informative solution with good color scheme and right material choice. It may seem that this task only includes good research on design examples by established names or in trends and vogue. Actually it is an effort and achievement reached by fully exerting the innate artistic and creative skills of student teams.
* Technical solution, including effective, ecologic, energy-saving and economic materials and technologies and their skillful and organic integration with design. The task requires very good research on the workshop theme; it is a standard point in different designer competitions. Good technical solution comes usually as a result of professional experience. In our case it can be supplied by expert opinion of the teacher team in order to direct the students to the correct solution.

After the end of the workshop, it is good practice to compile and hand out a questionnaire to all participants, which should be filled in. Its basic aim is to show whether the major outcomes of a successful workshop have been reached, and to outline possible errors.

CONCLUSIONS

What is the essence of a workshop, which is its most important point and why is it a successful method of teaching/work?

To our view, the essence of a workshop consists in team work in different conditions, with more and different from the usual participants, motivated by competition and announced prizes, implemented at an unusual/different place (such as a manufacturing company, foreign university, in situ of an architectural project, etc.), taking place in a given short time. The outcomes are numerous. The usual critical attitude of teachers is changed to friendliness and well-meaning. Because work should be done fast, this helps against getting stuck at one point. The numerous ideas, generated during the seminar, have their impact by leaving satisfaction and a feeling of having learned many new things. The contemporary topic and direct contact with a manufacturing company (sponsor) and public (customers) sharpen the interest of the student, demonstrating the significance of the profession chosen. The seminar could also be characterized by its motivation and excitement otherwise lacking in the routine teaching process. It can also leave bright memories of student life. When we add the practice of foreign language and contacts with teachers from abroad, we get a cocktail of events that successfully stimulate the creative potential of young people.